

We claim:

- 1 1. A tire measuring device comprising:
  - 2 - a converter for converting ambient energy to an alternating value, and
  - 3 - a reflector that can be modulated via the alternating value.
- 1 2. The tire measuring device according to claim 1, wherein the reflector is a  
2 reflector for an electromagnetic signal, particularly, for a high-frequency signal.
- 1 3. The tire measuring device according to claim 1, wherein the tire measuring  
2 device further comprises an antenna.
- 1 4. The tire measuring device according to claim 1, wherein the tire measuring  
2 device is a backscatter transponder.
- 1 5. The tire measuring device according to claim 1, wherein the tire measuring  
2 device comprises a sensor for determining a measured value.
- 1 6. The tire measuring device according to claim 5, wherein the converter converts  
2 the ambient energy to an alternating value as a function of the measured value.
- 1 7. The tire measuring device according to claim 5, wherein the tire measuring  
2 device has means to influence the alternating value as a function of the measured  
3 value.
- 1 8. The tire measuring device according to claim 1, wherein the alternating value  
2 comprises a first alternating value and a second alternating value.
- 1 9. The tire measuring device according to claim 8, wherein the first and second  
2 alternating values are alternating values which are derived from an original alternating  
3 value that can be broken down and wherein, after the breakdown, the first and second  
4 alternating value can be influenced differently by a measured value.

- 1 10. The tire measuring device according to claim 8, further comprising a second  
2 converter for generating the second alternating value.
- 1 11. The tire measuring device according to claim 1, further comprising:  
2 – a piezoelectric layer as energy converter, and  
3 – a layer with a controllable dielectric.
- 1 12. The tire measuring device according to claim 1, wherein the converter contains  
2 a piezoelectric fiber or is formed by one or several piezoelectric fibers.

- ✓
- 1 13. A tire comprising a tire measuring device comprising:
- 2 - a converter for converting ambient energy to an alternating value, and
- 3 - a reflector that can be modulated via the alternating value.
- 1 14. The tire according to claim 13, wherein the tire measuring device is connected
- 2 to the tire cover and/or vulcanized into the tire.

- 1 15. A rim with a tire measuring device, said device comprising: 3
- 2 - a converter for converting ambient energy to an alternating value, and
- 3 - a reflector that can be modulated via the alternating value.

- 1 16. A vehicle comprising: c1  
2 - a plurality of tires, wherein each tire comprises a tire measuring device  
3 comprising:  
4 - a converter for converting ambient energy to an alternating value, and  
5 - a reflector that can be modulated via the alternating value.

1 17. A method for tire measurement comprising the steps of:

- 2 - converting the ambient energy to an alternating value, and  
3 - modulating a reflector via the alternating value.

1 18. The method according to claim 17, wherein the step of converting the ambient  
2 energy to an alternating value is performed as a function of a measured value.

1 19. The method according to claim 17, further comprising the step of influencing  
2 the alternating value as a function of a measured value.

1 20. The method according to claim 17, further comprising the step of generating a  
2 first alternating value and a second alternating value.

1 21. The method according to claim 17, wherein the first and second alternating  
2 values are alternating values which are derived from an original alternating value that  
3 can be broken down and wherein, after the breakdown, the first and second alternating  
4 value can be influenced differently by a measured value.